

Electrophoretically Deposited Hydrophilic Coatings for Fuel Cell Diffuser/Current Collector

Abstract

5 A method is provided for making a hydrophilic carbon fiber construction, such
as a fuel cell gas diffusion layer or diffuser/current collector, by electrophoretic
deposition of a metal oxide selected from Type I or Type II, where Type I consists of
metal oxides having a negative zeta potential and Type II consists of metal oxides
having a positive zeta potential. A hydrophilic carbon fiber construction is provided,
10 such as a fuel cell gas diffusion layer or diffuser/current collector, which is coated with
a metal oxide and capable of wicking 200mg of water per 40mg of the hydrophilic
carbon fiber construction.